IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Graner et al.	Confirmation No.:	8714
Serial No.:	10/091,390	Art Unit:	1651
Filed:	March 5, 2002	Examiner:	Weber, Jon P.
For:	METHODS OF RECOVERING CHAPERONE PROTEINS AND COMPLEXES THEREOF	Attorney Docket No:	8449-181-999

DECLARATION UNDER 37 C.F.R. §1.132
BY DR. MICHAEL GRANER AND DR. EMMANUEL KATSANIS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

We, MICHAEL W. GRANER AND EMMANUEL KATSANIS, do declare and state that:

1. We are the inventors of the invention disclosed and claimed in the above-identified patent application.

2. We are also co-authors, with Amy Raymond and Emmanuel Akporiaye, of the research article "Tumor-derived multiple chaperone enrichment by free-solution isoelectric focusing yields potent antitumor vaccines" published in Cancer Immunol. Immunother. 49:476-484 (2000) (herein referred to as "Graner (Nov. 2000)").

3. We are the inventors of the subject matter which is both disclosed in Graner (Nov. 2000) and disclosed and claimed in the above-identified patent application.

4. The other authors of Graner (Nov. 2000), Amy Raymond and Emmanuel Akporiaye, made no contribution to the conception of the subject matter disclosed and claimed in the above-identified application.

5. Amy Raymond was a technician in the laboratory where the subject matter of Graner (Nov. 2000) was researched. Ms. Raymond conducted experiments using different detergents in isoelectric focusing buffers and carried out animal vaccinations, under our direction and supervision. She performed experiments involving only assay and testing features of the invention.

6. Emmanuel Akporiaye used different dosages and dosing schemes for vaccinating the mice used in the experiments in Graner (Nov. 2000), and provided comments to the manuscript of Graner (Nov. 2000). His contribution involved only assay and testing features of the invention.

7. Thus, Amy Raymond and Emmanuel Akporiaye, while listed as co-authors in Graner (Nov. 2000), are not co-inventors of the subject matter which is both described in Graner (Nov. 2000), and described and claimed in the above-identified application.

8. We declare further that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

Dated: 9 JULY 04

Michael W. Graner

Dated: _____

Emmanuel Katsanis

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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We, MICHAEL W. GRANER AND EMMANUEL KATSANIS, do declare and state that:

1. We are the inventors of the invention disclosed and claimed in the above-identified patent application.

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Dated: _____

_____
Michael W. Graner

Dated: 8/9/04

_____
Emmanuel Katsanis

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Graner et al.	Confirmation No.:	8714
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DECLARATION UNDER 37 C.F.R. §1.132 BY DR. MICHAEL GRANER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, MICHAEL GRANER, do solemnly and sincerely declare and state that:

1. I am an inventor of the invention described and claimed in the above-identified application.

2. I received a Ph.D. degree from the University of Illinois in 1993. I received further postdoctoral training at the University of Arizona from 1994-1999. From 1999 to 2003, I held a position as an Assistant Research Scientist at the University of Arizona, the assignee of the above-identified application, where I helped to establish a research laboratory that is focused on the immunology and biochemistry of anti-cancer vaccines. I was promoted to Research Assistant Professor at the University of Arizona in 2003, and I am now a Medical Research Associate Professor at Duke University. My *curriculum vitae* is attached hereto as Exhibit A.

3. I have given over 30 professional presentations and authored or co-authored over 17 publications concerning heat shock/chaperone proteins, cancer vaccines, and protein biochemistry.

4. I am familiar with scientific literature concerning the immunology and biochemistry of cancer vaccines.

5. I have read and understand the above-identified U.S. patent application, serial no. 10/091,390 ("the '390 application") and what I understand are its pending claims, which are directed to methods for enriching chaperone protein complexes and pharmaceutical compositions comprising such complexes.

6. I have also read and understand Katsanis et al. (Keystone Symposia on Cellular Immunity and Immunotherapy of Cancer, 2000, abstract 431), hereinafter "Katsanis"; Graner et al. (Cancer Immunol. Immunother. 2000, 49:476), hereinafter "Graner (Nov. 2000); Graner et al. (Clin. Cancer Res. 2000, 6:909), hereinafter "Graner (Mar. 2000)"; Lucietto et al. (J. Peptide Res. 1997, 49:308), hereinafter "Lucietto"; and Rotofor™ System Bio-Rad Tech Notes Summaries, hereinafter "Bio-Rad".

7. I have also read and understand the office action mailed January 9, 2004, in connection with the '390 application.

8. The Behavior of Chaperone Protein Complexes Under FS-IEF Conditions Was Unexpected

8.1 The '390 application teaches that the buffer in which free solution isoelectric focusing (FS-IEF) is performed contains detergent and a chaotropic agent such as 6M urea. Generally, such conditions are utilized to inhibit hydrophobic interactions and reduce protein-protein interactions.

8.2 The expectation based on the knowledge in the art would have been that certain chaperones would separate into discrete fractions according to the pI of each chaperone and that such chaperones would be further purified individually. The presence of high molar concentrations of urea would be expected to decrease protein binding and increase protein separation. Thus, the skilled artisan would not have expected that FS-IEF in the presence of a chaotropic agent such as urea would afford the successful enrichment of chaperone protein-peptide complexes.

8.3 However, instead of migrating to the respective isoelectric points, it was observed that the chaperones formed high molecular-mass complexes that did not dissociate despite the presence of 6M urea. It was unexpected that the chaperones and associated antigenic peptides would coalesce together in the middle of the pH range in the presence of a chaotropic agent such as urea. It was also unexpected that they would coalesce in a relatively narrow range of pH.

8.4 The invention of the '390 application takes advantage of our unexpected observations that FS-IEF performed on tumor tissue homogenates, using harsh denaturing conditions including a chaotropic agent, yields compositions enriched for complexes containing a range of chaperone protein-peptide complexes within a relatively narrow pH range. The FS-IEF technique under these conditions creates a composition containing multiple beneficial chaperones and peptides necessary to stimulate an effective

immune response against the tumor, thereby providing an unexpectedly complete vaccine product in essentially one step.

8.5 Based on the knowledge in the art about FS-IEF performed using harsh denaturing conditions, it was unexpected that the chaperones did not separate but instead coalesced. The maintenance of chaperone protein-peptide complexes within the fractions that are enriched for chaperones was also unexpected, given the use of urea as a chaotropic dissociant.

8.6 I conclude that, without the teachings in the '390 application, one of ordinary skill in the art would not (i) expect the above-described behavior of chaperone protein complexes in FS-IEF performed under harsh denaturing conditions condition, and (ii) appreciate that FS-IEF could be utilized under such conditions to produce a composition in which multiple chaperones and associated peptides remain together in complex, thereby providing a vaccine product using a single-step enrichment method.

9. The References Cited as a Basis for the Rejection under 35 U.S.C. § 103

9.1 Lucietto utilizes IEF as a means of purifying a single synthetic protein or protein fragment of interest from contaminating by-products of chemical synthesis. Lucietto starts with nearly purified product (the target of synthesis) and uses two rounds of IEF to purify the synthetic protein/fragment to homogeneity.

9.2 Lucietto teaches that the buffer condition used in their method prevents aggregation of chaperone proteins. See page 318, column 2, numbered paragraph 4: "The IEF technique is compatible with the use of non-ionic denaturing agents (e.g., NONIDET, urea) which on the one hand allow the loading in the ROTOFOR chamber (50 mL) of relatively large quantities (30-100 mg) of even poorly soluble proteins and on the other avoid precipitation of the latter near or at its pIs and the formation of aggregated species which may precipitate or focus at a different pH." (emphasis added)

9.3 Bio-Rad discloses the use of detergents and urea in FS-IEF for the purification of certain proteins. However, Bio-Rad does not teach the use of a chaotropic agent in FS-IEF for isolating protein complexes.

9.4 One of ordinary skill in the art would not have applied the teachings of Lucietto or Bio-Rad, directed to purifying individual, noncomplexed polypeptides, to a method to produce the enriched chaperone-peptide complexes of the invention of the '390 application, because the presence of a chaotropic agent such as urea would be expected to reduce or abolish protein-protein interactions. Instead, unexpectedly,

the chaperones do not separate from each other and from their complexed peptides but instead form high molecular weight complexes. The maintenance of antigenic peptides within the fractions that are enriched for chaperones would not be expected, given the use of urea as a denaturant/chaotropic dissociant and the presence of detergents.

9.5 The skilled artisan following the teachings of Katsanis, Graner (Mar. 2000), Lucietto, and Bio-Rad, and the knowledge in the art, would not have been motivated to use the methods of the claimed invention of the '390 application because none of these references teaches the use of FS-IEF in the presence of a chaotropic agent to enrich for noncovalent complexes of chaperone and peptide, which association of chaperone and peptide was known to be necessary for immunogenicity. The conditions that allowed the FS-IEF procedure to yield a viable product included the use of urea, and thus would be expected to result in the loss of complex formation and thus loss of antigenic peptides that provide the specificity necessary to mount an adaptive immune response against a tumor.

10. All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true. All statements made herein are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: 9 JULY 04

Michael W. Graner

Curriculum Vitae for MICHAEL W. GRANER

Home and contact information: 4119 Peachway Drive
Durham, NC, 27705 Phone: 919/493-6115
graner@u.arizona.edu

Birthdate: June 10, 1962, in Carrollton, IL, USA

Current Position: Medical Research Associate Professor, Brain Tumor Center, Department of Pathology, Duke University Medical Center, Durham, North Carolina.

Research Interests: Immunology and biochemistry of anti-cancer vaccines.

Education: Illinois College; Aug 1981-May 1985.
B.A. in Biology and English

University of Illinois, Aug 1985-Aug 1993
M.S. in Dec 1988, Biochemistry
Ph.D. in Oct 1993 from the Dept. of Biochemistry,
Tim Karr, Advisor

Graduate Awards/Honors:

Placed on U of I's "Incomplete List of Excellent Teaching Assistants", 1985-1988
Recipient of Chemistry Department's Outstanding Teaching Assistant Award, 1989
Recipient of Monsanto Travel Award, 1990
Recipient of U of I Biotechnology Center Travel Grant, 1991

Previous Appointments:

Graduate Teaching and Research Assistant, School of Chemical Sciences, University of Illinois, 1985-1988. ---
--Served as Czar, 1986-1988.
Graduate Teaching and Res. Asst., Dept. of Biochemistry, U of IL, 1986-1993.
Confocal Microscope Technician, Assistant to Bridget Carragher, Director of the Beckman Institute's Optical Visualization Facility, 1992-1993.
Visiting Scholar, University of Arizona, 1994.
Instructor/Laboratory Coordinator, MCB 473, "Recombinant DNA Techniques", Jan-May, 1994.
Post-doctoral Research Associate with Dr. Danny Brower, University of Arizona, MCB Department, 1994-1997.
Post-doctoral Research Associate with Dr. Emmanuel Katsanis, University of Arizona, Pediatrics, 1997-1999.
Assistant Research Scientist, University of Arizona, Pediatrics, 1999-2003.
Research Assistant Professor, University of Arizona, Pediatrics, 2003-2004.

Professional Activities

Patent filed with U.S. Patent and Trademark Office by University of Arizona Office of Technology Transfer, "Methods of Recovering Chaperone Proteins and Complexes Thereof" ,M.W. Graner and E. Katsanis, inventors. Serial No. 60/287,967. First Office Action, April, 2004.

Member, Cell Stress Society International

Ad Hoc Reviewer: Journal of Medicinal Chemistry International Journal of Cancer; Cancer Research, Journal of Proteomic Research

Funding Sources:

ADCRC
"Chaperone rich cell lysates (CRCL) Vaccine for Ovarian Cancer"
PI: Emmanuel Katsanis; Co-PI: Michael Graner
Project period 7/03-7/06
Total direct cost $150,000

NCI 1 RO1 CA104926-01
"Chaperone rich cell lysate (CRCL) vaccine for chronic myelogenous leukemia"
PI: Emmanuel Katsanis; Co-PI: Michael Graner
Project period 12/03-11/07
Total direct cost $900,000

University Physicians Experimental Research in Clinical Care (UPERCC)
"Chaperone-Rich Cell Lysates (CRCL): The new wave of anti-cancer vaccines"
PI: Emmanuel Katsanis; Co-PI: Michael Graner
Project period 5/03-5/05
Total direct cost $199,898

Department of Defense Chronic Myelogenous Leukemia Research Program #CM020031
"Chaperone rich cell lysate (CRCL) vaccine for chronic myelogenous leukemia"
PI: Emmanuel Katsanis; Co-PI: Michael Graner
Project period 7/03-7/06
Total direct cost $485,501

NIH R21 CA100596-01
"Multiple chaperone complexes: Natural adjuvants and antigens for dendritic cell based vaccines"
PI: Emmanuel Katsanis; Co-PI: Michael Graner
Project period 7/03-7/05
Total direct cost $300,000

Michael Landon Fund Awardee
2001-2002, covered salary

Arizona Cancer Biology Training Grant Recipient
1994-1995

Research Presentations:

Visualization and Characterization of the *Drosophila* Sperm Tail During Early Embryonic Development. Poster presentation, ACSB Meetings, Houston 1989. Graner and Karr, authors.

Visualization and Characterization of the *Drosophila* Sperm Tail During Early Embryonic Development. Poster presentation, Regional ASCB Meeting, Chicago, 1990. Graner and Karr, authors.

Isolation and Characterization of a *Drosophila* Sperm Protein. Poster presentation, National *Drosophila* Research Conference, Chicago, 1991. Graner et al., authors.

Sperm-Egg Interactions in *Drosophila*. Poster presentation, Midwest *Drosophila* Conference, Monticello IL, 1991. Graner and Karr, authors.

Sperm-Egg Interactions in *Drosophila* : Purification and Characterization of a Protein Involved in Fertilization and Early Development. Poster presentation, ASCB Meetings, Boston, 1991. Graner et al., authors.

"Multiple Epitopes of a Novel Sperm-Egg Proteoglycan in *Drosophila*". Oral presentation, National *Drosophila* Research Conference, Philadelphia, 1992.

Calreticulin and a Bangles and Beads-like Protein in *Drosophila* Head and Gonads: Sex-specific Modifications? Poster presentation, National *Drosophila* Conference, Chicago, 1994. Graner et al., authors.

Drosophila Integrin Mutations: An Analysis at the Cell Level. Poster presentation, National *Drosophila* Research Conference, San Diego, 1996. Graner et al., authors.

Drosophila Calreticulin: A Sexual Issue? Poster presentation, University of Arizona Center for Insect Science Hexapodium, Tucson, AZ, 1996. Graner et al., authors.

Dendritic cells induce T cell responses against bcr/abl+ chronic myelogenous leukemia. Poster presentation, Keystone Symposia on Molecular and Cellular Biology, Cellular and Molecular Biology of Dendritic Cells, Santa Fe, NM, 1998. He et al., authors.

Purification of Heat Shock and Chaperone Proteins from A20 Murine Lymphoma. Poster presentation, Cold Spring Harbor Meeting: Molecular Chaperones and the Heat Shock Response, Cold Spring Harbor, NY, 1998. Graner et al., authors.

Augmentation of tumor lysate immunogenicity by enrichment of chaperone proteins using free solution isoelectric focusing. Poster presentation, Keystone Symposia on Cellular Immunity and Immunotherapy of Cancer, Santa Fe, NM, 2000. Katsanis et al., authors.

"Hot, Shocking Cancer Vaccines", Oral presentation, Immunotherapy of Cancer Workshop, Tucson, AZ, 2000.

"Heat Shock Proteins as Cancer Vaccines", Oral presentation, U of A Dept. of Pediatrics Research Conference, Tucson, AZ, 2000.

Tumor Derived Multiple Chaperone Protein Enrichment by Free Solution-Isoelectric Focusing (FS-IEF) Yields Potent Anti-Tumor Vaccines. Poster Presentation, University of Arizona Cancer Center Faculty Research Forum, Tucson, AZ, 2000. Graner et al., authors.

A 'Trojan Horse' in the Anti-Tumor Vaccine: Is Serum Albumin Transporting TGF-β? Poster Presentation, University of Arizona Cancer Center Faculty Research Forum, Tucson, AZ, 2000. Likhacheva et al., authors.

Tumor Derived Multiple Chaperone Protein Enrichment by Free Solution-Isoelectric Focusing (FS-IEF) Yields Potent Anti-Tumor Vaccines. Poster presentation, II International Conference on Heat Shock Proteins in the Immune Response, Farmington, CT, 2000. Graner et al., authors.

Tumor-derived chaperone proteins as anti-cancer vaccines in multiple modality cancer therapy. Poster presentation, AACR Conference, New Orleans LA, 2001. Tyszka et al., authors.

"A 'Trojan Horse' in the Anti-Cancer Vaccine: Is Serum Albumin Transporting TGF-β?", Oral presentation, Immunotherapy of Cancer Workshop, Tucson, AZ, 2001.

Exogenous stress proteins enhance the immunogenicity of apoptotic tumor cells and stimulate anti-tumor immunity. Poster presentation, AACR Conference, San Francisco CA, 2002. Feng et al., authors.

Dendritic cells loaded with tumor-derived multiple chaperone proteins enriched by free solution-isoelectric focusing induce significant protective immunity. Poser presentation, AACR Conference, San Francisco CA, 2002. Zeng et al., authors.

"Multiple Chaperone Protein Complexes (MCC) as anti-cancer vaccines", Oral presentation, Joint AZCC/Mayo Clinic Symposium, Scottsdale AZ, 2002.

Tumor-derived multiple chaperone complexes are effective therapeutic vaccines against a variety of cancers. Poster presentation, Cold Spring Harbor Meeting: Molecular Chaperones and the Heat Shock Response, Cold Spring Harbor, NY, 2002. Graner et al., authors.

Leukemia-derived chaperone-rich cell lysates activate dendritic cells and elicit therapeutic immunity against murine leukemia. Poster presentation, III International Conference on Heat Shock Proteins in the Immune Response, Farmington, CT, 2002. Graner et al., authors.

Exogenous stress proteins enhance the immunogenicity of apoptotic tumor cells and stimulate anti-tumor immunity. Poster presentation, Society for Biologic Therapy Meeting, San Diego CA, 2002. Feng et al., authors.

Tumor-derived chaperone-rich cell lysates activate dendritic cells and elicit therapeutic immunity against a wide variety of cancers. Poster presentation, Society for Biologic Therapy Meeting, San Diego CA, 2002. Graner et al., authors.

Leukemia-derived chaperone-rich cell lysates (CRCL) provide bcr-abl specific immunity. Poster presentation, Keystone Symposia on Basic Aspects of Tumor Immunology, Keystone CO, 2003. Katsanis et al., authors.

Chaperone-rich cell lysates: adjuvant, antigen, and applicability in an anti-cancer vaccine. Oral presentation. 1st International Congress on Stress Responses in Biology and Medicine, Quebec City, Canada, Sept 2003.

Chaperone-rich cell lysates: adjuvant, antigen, and applicability in an anti-cancer vaccine. Oral presentation, Univ of Arizona Dept. of Pediatrics Research Conference, Tucson, AZ, 2003.

Chaperone-rich cell lysates: adjuvant, antigen, and applicability in an anti-cancer vaccine. Invited speaker, Brain Tumor Center, Duke University, Durham, NC, March 2004.

Peptide-Loaded Chaperone-Rich CellLysates May Enhance the Effectiveness of Anti-Cancer Vaccines. Poster Session, American Association of Cancer Research, Mar 2004. Kislin et al., authors.

Chaperone-Rich Cell Lysate (CRCL): The Enhancement of Antigen-Specific Peptide Presentation in an Anti-Cancer Vaccine. Poster Session, University of Arizona Recruiting Poster Session, Mar 2004. Kislin et al, authors.

Applications of chaperone-rich cell lysate anti-cancer vaccines. Poster presentation (Biology), 9th International Congress on Hyperthermic Oncology, St Louis MO, April 2004. Graner et al., authors.

Chaperone-rich cell lysates: peptides in an anti-cancer vaccine. Oral presentation (HSPs in Medicine), 9th International Congress on Hyperthermic Oncology, St Louis MO, April 2004.

Tumor-expressed albumin inhibits anti-tumor immune responses. Oral presentation, University of Arizona Department of Pediatrics Research Conference, Tucson, AZ, May 2004.

Publications:

Zackson SL, Graner M, and TL Karr. 1993. Detection of electrophoretic variants of Notch , PS integrin, and DROP-1 proteins in *Drosophila* following extraction in guanidine hydrochloride. Biochem. Biophys. Res. Comm. 194: 490-495.

Graner M, Stupka K, and TL Karr. 1994. Biochemical and cytological characterization of DROP-1: a widely distributed proteoglycan in *Drosophila*. J. Insect Biochem and Molec. Biol. 24: 557-567.

Li X, Graner MW, Williams EL, Roote CE, Bunch TA, and S Zusman. 1998. Requirements for the cytoplasmic domain of the αPS1, αPS2 and βPS integrin subunits during *Drosophila* development. Development 125: 701-711.

Bunch TA, Graner M, Schneider K, Kershen A, Choy L, Burgess B, and D Brower. 1998. The PS2 integrin ligand Tiggrin is required for proper muscle function in *Drosophila*. Development 125: 1679-1689.

Graner MW, Bunch TA, Baumgartner S, Kershen A, and DL Brower. 1998. Splice variants of the Drosophila PS2 integrins differentially interact with the RGD-containing fragments of the extracellular proteins Tiggrin, Ten-m, and D-Laminin α2. Journal of Biological Chemistry 273 (29): 18235-18241.

Graner M, Raynond A, Romney D, He L, Whitesell L, and E Katsanis. 2000. Immunoprotective activities of multiple chaperone proteins isolated from murine B-cell leukemia/lymphoma. Clinical Cancer Research 6: 909-915.

Graner M, Raymond A, Akporiaye E, and E Katsanis. 2000. Tumor-derived multiple chaperone enrichment by free-solution focusing yields potent antitumor vaccines. Cancer Immunology and Immunotherapy 49: 476-484.

He L, Feng H, Raymond A, Kreeger M, Zeng Y, Graner MW, Whitesell L, and E Katsanis. 2000. Dendritic cell-peptide immunization provides immunoprotection against bcr-abl positive leukemia in mice. Cancer Immunology and Immunotherapy 50:31-40.

Feng H, Zeng Y, Graner M, and E. Katsanis. 2002. Stressed apoptotic tumor cells stimulate dendritic cells and induce specific cytotoxic T cells. Blood 100:4108-15.

Feng H, Zeng Y, Graner MW, Likhacheva A, and E Katsanis. 2003. Exogenous stress proteins enhance the immunogenicity of apoptotic tumor cells and stimulate anti-tumor immunity. Blood 101:245-252.

Graner MW, Zeng Y, Feng H, and E Katsanis. 2003. Tumor-derived chaperone-rich cell lysates are effective therapeutic vaccines against a variety of cancers. Cancer Immunology and Immunotherapy 52:226-234.

Zeng Y, Feng H, Graner MW, and E Katsanis. 2003. Dendritic cells loaded with tumor-derived chaperone-rich cell lysates proteins stimulate dendritic cells and induce significant protective immunity. Blood 101:4485-4491.

Raynes DA, Graner MW, Bagatell R, McLellan C, and V Guerriero. 2004. Increased Expression of HspBP1 in Tumors. Tumour Biology 24:281-5.

Feng H, Zeng Y, Graner M, Whitesell L, and E Katsanis. 2004. Evidence for a novel caspase 8-indepepndent, Fas-death domain-mediated apoptotic pathway. Journal of Biomedicine and Biotechnology 2004: 41-51.

Zeng Y, Graner MW, Feng H, Li G, and E Katsanis. 2004. Imatinib mesylate effectively combines with chaperone-rich cell lysates-pulsed dendritic cells to treat *bcr-abl*$^{+}$ murine leukemia. International Journal of Cancer 110: 251-9.

Graner M, Likhacheva A, Davis J, Romanoski, MA, Thompson S, Brandenberger J, Raymond A, Akporiaye E, and E Katsanis. Tumor-expressed albumin inhibits T cell activation and proliferation. Submitted to Cancer Research.

Zeng Y, Graner MW, Thompson S, Marron M, and E Katsanis. Induction of bcr-abl specific immunity following vaccination with Chaperone Rich Cell Lysates (CRCL) derived from *bcr-abl*$^+$ tumor cells. Submitted to Blood.

Graner MW. Chaperone proteins as targets and therapeutics for brain tumors. Manuscript in preparation.

Invited Reviews:

Graner MW, and E Katsanis. Chaperone proteins/heat shock proteins as anti-cancer vaccines. In "Handbook of Cancer Vaccines", MA Morse, TM Clay, and HK Lyerly, eds. 2004. Humana Press, Totowa, NJ, USA.